



Sugarcane APH Crop Insurance Evaluation Tool, Hurricane Insurance Protection-Wind Index, and Tropical Storm Endorsement Policies

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Sugarcane crop insurance will be available for purchase in Louisiana for the 2024 crop. This report provides an overview of the operational mechanics of the Actual Production History (APH) plan of insurance. Also contained within this report is an explanation of key policy changes made by the Federal Crop Insurance Corporation (FCIC) to the sugarcane insurance policy program applicable for CY 2024. Examples are for educational purposes only and producers are strongly urged to consult with a certified crop insurance professional prior to making any decisions regarding policy selection and/or purchase. Table 1 contains a list of important dates regarding sugarcane policy reporting, as released by the USDA RMA.

Table 1. Sugarcane crop insurance reporting dates.

Reporting Event	Date
Sales Closing Date	9/30/23
Cancellation Date	9/30/23
Final Planting Date	11/15/23
Acreage Reporting Date	7/15/24
Premium Billing Date	1/1/25
End of Insurance Date	1/31/25
Termination Date	9/30/25
Contract Change Date	6/30/24
Production Reporting Date	11/14/23

Buy-up coverage levels of 50, 55, 60, 65, 70, 75, 80, and 85 percent, are available for purchase, insuring production at the farm's average production history and up to 100 percent of the price election. Catastrophic (CAT) risk protection coverage is also available, albeit at 50 percent of the farm's APH and 55 percent of the established price. Producers can insure their acres by farm serial number or by sections with optional units. Premium subsidies are available and vary based on the coverage level selected. Table 2 lists the premium subsidy per insured unit type. These factors will be applied to the total premium cost. For CAT policies, the entire premium cost is subsidized by the government; however, the producer must pay the \$300 administrative fee.

Table 2. Subsidy factors for a sugarcane APH insurance policy, 2024 crop year.

	CAT	50	55	60	65	70	75	80	85
Basic Unit	1.00	0.670	0.640	0.640	0.590	0.590	0.550	0.480	0.380
Optional Unit	--	0.670	0.640	0.640	0.590	0.590	0.550	0.480	0.380
Enterprise Unit	--	0.800	0.800	0.800	0.800	0.800	0.770	0.680	0.530

The price used for the 2024 crop insurance commodity year for raw sugar is \$0.1950 per pound per USDA RMA calculations. This price election is imposed on all production guarantee calculations for buy-up coverage in excess of the CAT coverage level. For CAT crop insurance coverage, the price election is set at 55% of the price election or \$0.1073 per pound.

In order to calculate an indemnity for a sugarcane APH policy, assume the following production assumptions. The example contained in Table 3 reflects current price elections for the 2024 crop year. An explanation of the mathematical function utilized to calculate an insurance payment (if any) is also presented for each step in the indemnity calculation process.

Table 3. Parameters used to calculate a crop insurance indemnity for an APH policy (example).

Parameter	Value
Approved yield per acre (lbs)	7,000
Coverage level of the policy (%)	70
Acres insured	280
Price election (\$/pound)	\$0.1950
Estimated Production to count (pounds)	740,000
Producer's share of production (%)	100

The insured amount of acreage (280) is multiplied by the production guarantee (4,900) yielding a product total of 1,372,000 pounds. The total production guarantee for the tract is then multiplied by the price election of \$0.1770 per pound and equates to \$242,844. The estimated production to count for sugar amounts to 740,000 pounds. This count is then multiplied by the price election of \$0.1950 per pound and equals \$144,300. The value of the production to count is less than the \$267,540 guarantee, resulting in an indemnity of \$123,240 (\$267,540-144,300). The resulting indemnity payment is multiplied by the producer's share (1.0) and amounts to \$123,240.

Step 1: Determine the production guarantee per acre:

$$\begin{aligned} & (\text{approved yield} * \text{coverage level of policy}) \\ & (7,000 \text{ pounds} * 0.70) = 4,900 \text{ pounds per acre} \end{aligned}$$

Step 2: Determine the production guarantee for the entire insured tract:

$$\begin{aligned} & (\text{number of insured acres} * \text{production guarantee per acre}) \\ & (280.0 \text{ acres} * 4,900 \text{ pounds per acre guarantee}) = 1,372,000 \text{ pounds} \end{aligned}$$

Step 3: Determine the value of the production guarantee:

*(production guarantee for the tract * price election)*

$$(1,372,000 \text{ pounds} * \$0.1950) = \$267,540$$

Step 4: Determine the value of the production to count:

*(price election * the production to count)*

$$(\$0.1950 * 740,000 \text{ pounds}) = \$144,300$$

Step 5: Determine the production shortfall (value of guarantee less the value of production to count):

If the value of production to count is less than the value of production guarantee, then:

$$(\$267,540 - \$144,300) = \$123,240$$

Step 6: Determine the indemnity to the tract:

*(production shortfall * producer's share of production)*

$$(\$123,240 * 1.00) = \$123,240$$

In the accompanying Microsoft® Excel spreadsheet, examples of APH insurance plans are presented based on producer-specified input parameters. A producer must enter their farm's APH yield, the amount of insured acres in the tract, the price election (the USDA RMA has set the price at \$0.19500 per pound), and a projected 'worst-case' actual yield that may be produced. From this data set, coverage levels of between 50 to 85 percent have been cell-referenced so as to calculate a potential indemnity (if any) across all coverage levels, to also include a CAT policy. Should no indemnity be triggered from producer-specified data, a yield threshold is calculated. This threshold value indicates how low the sugar yield (pounds per acre) would have to be in order to produce an indemnity at the coverage level associated with the purchased policy.

In Table 4, blue cells represent information producers will be asked to enter. In the default example provided in the Excel spreadsheet, the producer's APH for this tract is 6,000 pounds. Farm acreage has been set at an amount of 100 acres. The price election is established at 100% or \$0.1950 per pound. In this case, the producer wants to evaluate the indemnity potential of the tract yielding 3,000 pounds of sugar per acre at harvest. It is assumed that the grower has a 100 percent share in the crop. Figure 1 contains a comprehensive overview of policy options per coverage level subject to these parameters.

Table 4. Policy parameters entered by the producer (*examples of parameter specifications*).

Parameter	Value
Approved yield per acre (pounds/ac)	<i>6,000</i>
Insured acres	<i>100</i>
Price election (\$/pound)	<i>\$0.1950</i>
Actual production to count (pounds)	<i>3,000</i>
Share of production (GRW)	<i>100%</i>

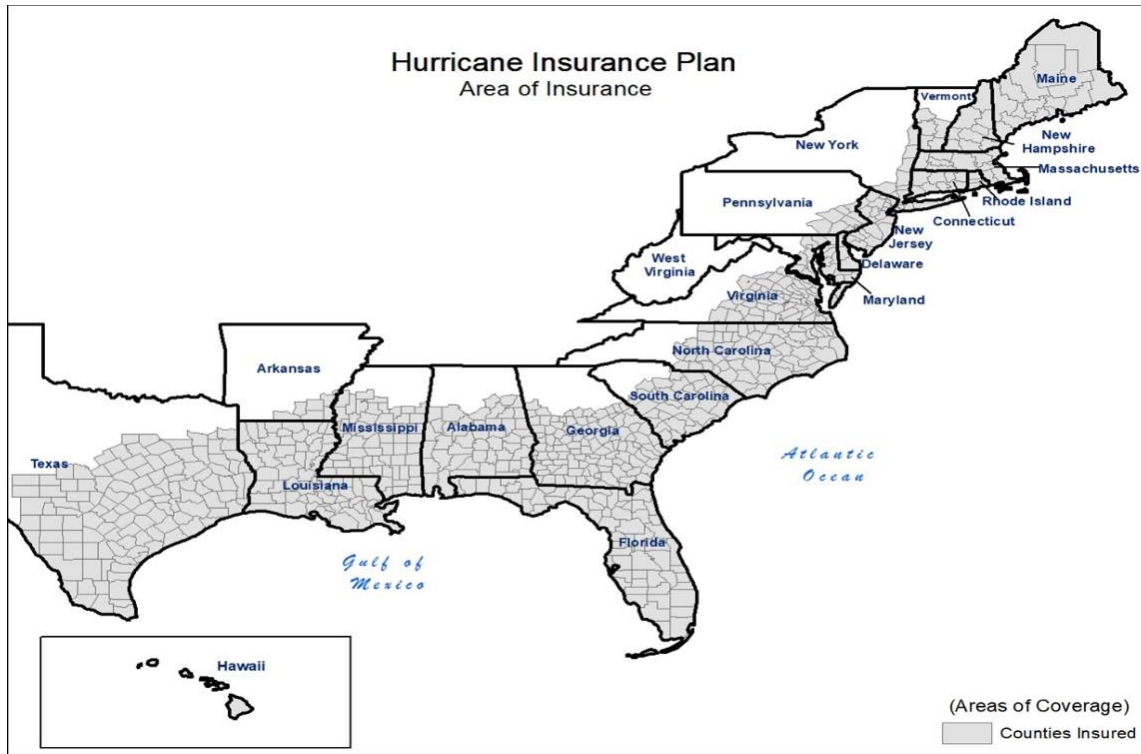
Figure 1 is presented on the next page.

Figure 1. Complete view of multiple coverage levels, CAT to 85 percent.

Sugarcane APH Crop Insurance -- Values in blue can be changed in the policy parameter section. All coverage levels (in red) will reflect producer-specified values for comparison in policy mechanics.			
<i>The policy premium is not included in these examples. Consultation should be sought from a crop insurance agent regarding the premium costs in a particular parish.</i>			
Policy Parameters Coverage at 50%			
Approved yield per acre (pounds)	6000		
Coverage level	50%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual Production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	3000		
Production guarantee for entire tract (pounds)	300000		
Value of production guarantee	\$58,500.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	No		
If no shortfall, what is the indemnity yield (per acre) threshold?	3000		
Value of production shortfall	\$0.00		
Indemnity received for tract	\$0.00		
Policy Parameters Coverage at 55%			
Approved yield per acre (pounds)	6000		
Coverage level	55%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual Production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	3300		
Production guarantee for entire tract (pounds)	330000		
Value of production guarantee	\$64,350.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$5,850.00		
Indemnity received for tract	\$5,850.00		
Policy Parameters Coverage at 60%			
Approved yield per acre (pounds)	6000		
Coverage level	60%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual Production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	3600		
Production guarantee for entire tract (pounds)	360000		
Value of production guarantee	\$70,200.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$11,700.00		
Indemnity received for tract	\$11,700.00		
Policy Parameters Coverage at 65%			
Approved yield per acre (pounds)	6000		
Coverage level	65%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	3900		
Production guarantee for entire tract (pounds)	390000		
Value of production guarantee	\$76,050.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$17,550.00		
Indemnity received for tract	\$17,550.00		
Policy Parameters Coverage at 70%			
Approved yield per acre (pounds)	6000		
Coverage level	70%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	4200		
Production guarantee for entire tract (pounds)	420000		
Value of production guarantee	\$81,900.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$23,400.00		
Indemnity received for tract	\$23,400.00		
Policy Parameters Coverage at 75%			
Approved yield per acre (pounds)	6000		
Coverage level	75%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	4500		
Production guarantee for entire tract (pounds)	450000		
Value of production guarantee	\$87,750.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$29,250.00		
Indemnity received for tract	\$29,250.00		
Policy Parameters Coverage at 80%			
Approved yield per acre (pounds)	6000		
Coverage level	80%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	4800		
Production guarantee for entire tract (pounds)	480000		
Value of production guarantee	\$93,600.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$35,100.00		
Indemnity received for tract	\$35,100.00		
Policy Parameters Coverage at 85%			
Approved yield per acre (pounds)	6000		
Coverage level	85%		
Insured acres	100		
USDA RMA Price election (\$ per pound)	\$0.1950		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	5100		
Production guarantee for entire tract (pounds)	510000		
Value of production guarantee	\$99,450.00		
Value of production to count	\$58,500.00		
production shortfall (if any)?	Yes		
If no shortfall, what is the indemnity yield (per acre) threshold?	Threshold Met		
Value of production shortfall	\$40,950.00		
Indemnity received for tract	\$40,950.00		
Policy Parameters Coverage at the CAT Level			
Approved yield per acre (pounds)	6000		
Coverage level for CAT policy	50%		
Insured acres	100		
USDA RMA CAT Price election (\$ per pound)	\$0.1073		
Actual production (pounds)	3000		
Actual production to count (pounds)	300,000		
Share of production (GRW)	100%		
Calculating an indemnity			
Production guarantee per acre (pounds)	3000		
Production guarantee for entire tract (pounds)	300000		
Value of production guarantee	\$32,175.00		
Value of production to count	\$32,175.00		
production shortfall (if any)?	No		
If no shortfall, what is the indemnity yield (per acre) threshold?	3000		
Value of production shortfall	\$0.00		
Indemnity received for tract	\$0.00		
<i>Policy illustrations are presented for educational purposes only and do not reflect a specific sugarcane farm in a particular parish.</i>			
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The Hurricane Insurance Protection-Wind Index (HIP-WI) Endorsement covers a portion of the deductible of the underlying crop insurance policy when the county, or a county adjacent to it, is within the area of sustained hurricane-force winds from a named hurricane based on data published by the National Hurricane Center (NHC) at the National Oceanic and Atmospheric Administration (NOAA). The HIP-WI Endorsement provides coverage for over 70 different crops insured under the Common Crop Insurance Policy, Basic Provisions (Basic Provisions) for both Catastrophic (CAT) and additional coverage policies when provided in the actuarial documents.

Figure 2. HIP-WI availability map, USDA RMA.



Eligibility for the HIP-WI Endorsement:

- Have an insurance policy under the Basic Provisions with the same insurance provider (any crop acreage, inventory, or trees and plants that are not insured by the underlying policy are not covered by HIP-WI)
- Elect HIP-WI on or before the sales closing for the underlying policy
- Elect a HIP-WI coverage percentage
- Comply with all terms and conditions of the HIP-WI Endorsement.

The initial year HIP-WI is elected, coverage will not begin until 14 days after the sales closing date. If the underlying crop policy also requires a waiting period, the wait periods will run concurrently. Growers are not required to submit an additional acreage report for HIP-WI because HIP-WI uses the underlying policy's acreage report.

The full value of the HIP-WI Endorsement is paid if a county, or adjacent county, is within the area of sustained hurricane-force winds from a named hurricane based on data published by the National Hurricane Center. The counties where payments occur will be identified in the actuarial documents.

Individual farm yields and revenues are not considered under HIP-WI and it is possible that you may experience reduced revenue or reduced yield and not receive an indemnity under HIP-WI.

An administrative fee and premium for the crop covered by each HIP-WI Endorsement will be due in addition to any administrative fee(s) and/or premium(s) of the underlying policy. The HIP-WI endorsement attaches only to the underlying policy and not to an endorsement. Therefore, only one administrative fee of \$30 is charged for HIP-WI coverage. The premium subsidy for HIP-WI is fixed at 65%.

Example of sugarcane HIP-WI coverage.

Step 1: Calculate the hurricane coverage range:

$$(0.95 - \text{maximum of the underlying policy's coverage level}) \\ (0.95 - 0.70) = 0.25 \text{ hurricane coverage range}$$

Step 2: Calculate the expected crop value of the underlying policy:

$$(\text{liability of the underlying policy} / \text{the coverage level of the underlying policy} / \text{percentage of price election or projected price}) \\ (7,000 \text{ pound APH} * (0.70 \text{ underlying policy coverage level} * 100 \text{ acres endorsed})) * (1.0 * \$0.1950) = \$95,500 \\ (\$95,500 / 0.70 / 1) = \$136,500 \text{ expected crop value}$$

Step 3: Calculate the Hurricane Protection Amount (HPA):

$$(\text{expected crop value of the underlying policy} * \text{HPA} * \text{coverage percentage elected under the endorsement}) \\ (\$136,500 * 0.25 * 0.90) = \$30,712.50$$

If the FCIC determines that the parish/county meets the parish/county loss trigger, the indemnity payment would be \$30,712.50.

The USDA RMA has now added the Tropical Storm Option to this endorsement for damage caused by strong weather systems not categorized as hurricanes. The option would cover named tropical storms, as reported by NOAA with maximum sustained winds exceeding 39 MPH and precipitation exceeding six inches over a four-day period. Both the wind trigger and precipitation trigger must occur for an indemnity to be paid.

The Tropical Storm Option (TS) is an option on the HIP-WI Endorsement and provides coverage for the same portion of the deductible of the underlying policy that is not otherwise covered, when the county, or a county adjacent to it, is subject to a tropical storm or a hurricane within its boundaries according to NOAA and determined by RMA. The TS must be elected by the HIP-WI SCD.

Although the HPA does not change, TS provides an additional county loss trigger for tropical storms based on a combination of tropical storm windspeeds and rainfall, as determined in accordance with the HDP. When TS is elected, 50 percent of the HPA will be paid as an indemnity whenever a county is triggered, not to exceed 100 percent of HPA in a crop year.

One question that is often posed is: *If a grower elects the Tropical Storm option, and a tropical storm hits my county first, followed by a hurricane at a later date, how will indemnities be paid?*

An indemnity will be due under TS if the TS county loss trigger is identified for the county. When the TS is elected, up to two indemnities are allowed, but the combined indemnities are not to exceed 100 percent

of the HPA. FCIC will identify the counties and their adjacent counties meeting the tropical storm trigger. For those crops with multiple planting periods within an insurance period, multiple indemnity payments, not to exceed 100 percent of the HPA, are allowed per eligible planting period, on a per acre basis. A TS indemnity will be 50 percent of the HPA for all eligible acres for the crop in the county when a qualifying event triggers the county. For example, you elect with HIP-WI and the TS option and experience two qualifying tropical storm events at the beginning of the season and a qualifying hurricane event 2 months later within the same crop year. The qualifying tropical storm events triggers an indemnity of 50 percent for each event to the maximum of 100 percent of the HPA. The qualifying hurricane event triggers but all 100 percent of the HPA has been paid. No further indemnity will be paid for any tropical storm or hurricane events after 100 percent of the HPA has been paid.

Farm-specific information will likely be different, and growers should consult the actuarial and policy information specific to their respective parish. The examples contained in this report are for illustrative purposes only.



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